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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/919,873

08/02/2001

Hideo Namiki

071671-0158

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7590

07/25/2006

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EXAMINER

MEW, KEVIN D

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,873

Applicant(s)

NAMIKI, HIDEO

Examiner

Kevin Mew

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-10 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 11-15, 17-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Final Action

Response to Amendment

1. Applicant's Remarks/Arguments filed on 4/28/2006 with respect to claims 1-13 have been fully considered. Claims 17-18 have been newly added by applicant. Claims 1-18 are currently pending.
2. Acknowledgement is made of the clarification requested regarding the objection to the abstract recited in the previous Office Action. The clarification made by applicant is clear and correct and the objection to the specification and abstract has been withdrawn.

Claim Objections

3. Claim 7 is objected to because of the following minor informalities:

In line 2, claim 7, the space in between the words "a synchronous" should be rewritten as just one word as "asynchronous" instead.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugar (USP 5,790,538) in view of Baik (USP 5,790,592).

Regarding claim 1, Sugar discloses a synchronous data transmission system for transmitting (synchronizing a receiving clock's frequency with a transmitting clock's frequency, see col. 1, lines 5-12) such data as voice or image data (voice transmission, see Fig. 1) between a first (a transmitting unit) and a second terminals (a receiving unit) via an asynchronous transmission line (asynchronous data transmission over a communication network, see col. 3, lines 33-49), wherein:

the first and second terminals each comprise a data generator (voice encoder of the DSP, see elements 38, 50, Fig. 7) and a data reproducer (voice decoder of the DSP, see elements 4, 38, Fig. 7) operable under control of a clock from a sampling clock generator (Resampler, see element 8, Fig. 7), and

a plurality of reception buffer stages (Voice Codeword FIFO, Fig. 1) connected to an input port of the data generator (connected to the input of the data reproducer/decoder of the DSP, Figs. 1 and 7), the plurality of reception buffer stages being directly connected to each other in such as manner that no other non-reception buffer stage component is connected between any two adjacently-connected ones of the plurality of reception buffer stages (Voice

Codeword FIFO cells are connected to each other such that no other non-reception buffer stage component is connected between any two adjacently-connected ones of the plurality of reception buffer stages, see element 2, Fig. 1).

Sugar does not explicitly show a transmission buffer connected to an output port of the data generator.

However, Baik discloses a first buffer transmitting data to the modulator (a transmission buffer, element 204, 202A, 202B, Fig. 2) and the first buffer is directly connected to the DSP where the DSP is performing data encoding (is connected to the output of the data generator/DSP, col. 3, lines 36-37, 52-55, elements 204, 206, Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the voice playout system and method of Sugar with the teaching of Baik (Fig. 2) in using a first buffer, which is directly connected to the DSP (data generator), as a buffer for data transmission for speech encoding such that the first buffer is connected to an output port of the voice encode module of the DSP of Sugar. The motivation to do so is to temporarily buffer the resultant data output by the channel encoding operation of the DSP before transmitting the data to packet network.

Regarding claim 2, Sugar discloses a synchronous data transmission system for transmitting (synchronizing a receiving clock's frequency with a transmitting clock's frequency, see col. 1, lines 5-12) such data as voice or image data (voice transmission, see Fig. 1) between a first (a transmitting unit) and a second terminals (a receiving unit) via an

asynchronous transmission line (asynchronous data transmission over a communication network, see col. 3, lines 33-49), wherein:

the first and second terminals each comprise a data generator (voice encoder, see element 50, Fig. 7) and a data reproducer (voice decoder, see element 4, Fig. 7) operable under control of a clock from a sampling clock generator (Resampler, see element 8, Fig. 7), and

a plurality of reception buffer stages (Voice Codeword FIFO, Fig. 1) connected to an input port of the data generator (connected to the input of the data reproducer/decoder of the DSP, Figs. 1 and 7), the plurality of reception buffer stages being directly connected to each other in such a manner that no other non-reception buffer stage component is connected between any two adjacently-connected ones of the plurality of reception buffer stages (Voice Codeword FIFO cells are connected to each other such that no other non-reception buffer stage component is connected between any two adjacently-connected ones of the plurality of reception buffer stages, see element 2, Fig. 1).

Sugar does not explicitly show a transmission buffer connected to an output port of the data generator.

However, Baik discloses a first buffer transmitting data to the modulator (a transmission buffer, element 204, 202A, 202B, Fig. 2) and the first buffer is directly connected to the DSP where the DSP is performing data encoding (is connected to the output of the data generator/DSP, col. 3, lines 36-37, 52-55, elements 204, 206, Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the voice playout system and method of Sugar with the teaching of Baik (Fig. 2) in using a first buffer, which is directly connected to the DSP (data generator), as

a buffer for data transmission for speech encoding such that the first buffer is connected to an output port of the voice encode module of the DSP of Sugar. The motivation to do so is to temporarily buffer the resultant data output by the channel encoding operation of the DSP before transmitting the data to packet network.

Regarding claim 3, Sugar discloses the synchronous data transmission system according to claim 1 or 2, wherein which further comprises a clock synchronizing means for synchronizing clocks generated in the sampling clock generators in the first and second terminals (synchronize a receiving clock's frequency with a transmitting clock's frequency, see col. 1, lines 5-12).

Regarding claim 4, Sugar discloses the synchronous data transmission system according to claim 1 or 2, which further comprises a frequency difference eliminating means (clock frequency recovery module, see element 10, Fig. 1) for eliminating the frequency difference between the clocks generated in the sampling clock generators in the first and second terminals (clock frequency recovery is needed where the receiver clock frequency differs from the transmitter clock frequency, see col. 4, lines 12-26).

Regarding claim 5, Sugar discloses the synchronous data transmission system according to claim 1 or 2, wherein a synchronous data transmission line is connected to the data generators (voice encoder, see Fig. 7) and the data reproducers (voice decoder, see Fig. 7) in the first and second terminals (isochronous data transmission between a receiving unit and a transmitting unit over a communication network, see col. 3, lines 33-49).

Regarding claim 6, Sugar discloses the synchronous data transmission system according to claim 2, wherein the sampling clock generators in the first and second terminals are controlled (clock frequency recovery is utilized) on the basis of the received data from the asynchronous transmission line interface (if the average FIFO voice size increases, see col. 4, lines 12-26).

Regarding claim 11, Sugar discloses the synchronous data transmission system according to claim 2, which further comprises a clock synchronizing means for synchronizing clocks generated in the sampling clock generators in the first and second terminals (col. 3, lines 33-49, col. 4, lines 12-26).

Regarding claim 12, Sugar discloses the synchronous data transmission system according to claim 2, which further comprises a frequency difference eliminating means for eliminating the frequency difference between the clocks generated in the sampling clock generators in the first and second terminals (col. 3, lines 33-49, col. 4, lines 12-26).

Regarding claim 13, Sugar discloses the synchronous data transmission system according to claim 2, wherein a synchronous data transmission line (synchronous voice traffic, col. 2, line 41) is connected to the data generators and the data reproducers in the first and second terminals (synchronous voice traffic is connected to Voice Encode and Voice Decode modules, Fig. 7).

Regarding claims 14-15, Sugar discloses he synchronous data transmission system according to claim 1, wherein the plurality of reception buffer stages are configured to handle both data underflow and data overflow, without loss of data, due to different sampling clock rates output by the respective sampling clock generator provided in the first and second terminals (col. 3, lines 33-49, col. 4, lines 12-26).

5. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugar (USP 5,790,538) in view of Baik (USP 5,790,592), and in further view of Guzikevits et al. (USP 6,628,664).

Regarding claims 17, Sugar discloses all the aspects of the claimed invention set forth in the rejection of claim 3 above, except fails to disclose the clock synchronizing means corresponds to a phase locked loop circuit.

However, Guzikevits discloses a telecommunications system wherein a phase locked loop circuit PLL is being used to provide a sampling clock to synchronize clock frequency (col. 9, lines 3-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the voice playout system of Sugar and Baik with the teaching of Guzikevits in using a PLL such that the PLL will feed a receive packet clock into a resampler. that compensates for the receive and transmit frequency mismatch.

The motivation to do so is to compensate for the transmit and receive frequency mismatch.

Regarding claims 18, Sugar discloses all the aspects of the claimed invention set forth in the rejection of claim 11 above, except fails to disclose the clock synchronizing means corresponds to a phase locked loop circuit.

However, Guzikevits discloses a telecommunications system wherein a phase locked loop circuit PLL is being used to provide a sampling clock to synchronize clock frequency (col. 9 , lines 3-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the voice playout system of Sugar and Baik with the teaching of Guzikevits in using a PLL such that the PLL will feed a receive packet clock into a resampler. that compensates for the receive and transmit frequency mismatch.

The motivation to do so is to compensate for the transmit and receive frequency mismatch.

Allowable Subject Matter

6. Claims 7-10, 16 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 7, a synchronous data transmission system comprising:

the data stored in the transmission buffer having been packeted in certain times (t) and being outputted via the asynchronous transmission line interface for the time unit (t), the reception buffer being capable of storing data received from the asynchronous transmission line for a plurality of times (nxt) in every unit time (t), and the data reproducer reproducing data when data for the plurality of times (nxt) has been stored.

Response to Arguments

7. Applicant's arguments with respect to claims 7-10 have been considered and are persuasive.

Applicant's arguments with respect to claims 1, 14-15 have been considered and are not persuasive.

Claims 7-10, 16 are allowable if the claim objection set forth on claim 7 above can be overcome.

With respect to claim 1, applicant argued on page 8, first, second and third paragraphs of the Remarks that neither Sugar nor Baik discloses "a transmission buffer and a plurality of reception buffer stages ... , the plurality of reception buffer stages being directly connected to each other in such a manner that no other non-reception buffer stage component is connected between any two adjacently-connected ones of the plurality of reception buffer stages" as recited in claim, it is noted that the arguments are moot in view of the new ground rejection set forth in the 35 U.S.C. 103(a) above in response to the newly added limitations in the amended claim 1. The new ground of rejection is based on interpreting the Voice Codeword FIFO of Sugar as the plurality of reception buffer stages and the first buffer of Baik as the transmission buffer.

With respect to claims 14-15, applicant argued on page 8, sixth paragraph and page 9, first paragraph of the Remarks that Sugar does not disclose or suggest anything using a plurality of reception buffer stages, the examiner respectfully disagrees. First, it is interpreted by the examiner that the FIFO voice codeword storage device is a plurality of buffer cells/stages. These plurality of buffer cells are used to provide a jitter-free system where it would slowly increase or decrease in size due to the frequency offset in the transmitter's clock versus the Rx clock (col. 8,

lines 13-44). To achieve this result, the FIFO voice codeword is configured to be read out at such a playout rate that the average FIFO codeword size does not exceed or falls below a certain threshold value, which reads on the claimed limitations “the plurality of reception buffer stages are configured to handle data underflow and data overflow, without loss of data, due to different sampling clock rates ... in the first and second terminals.” Therefore, Sugar teaches the features recited in claims 14-15. Claims 14-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sugar (USP 5,790,538) in view of Baik (USP 5,790,592).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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